13th September 1958]

APPENDIX I.

[Vide answer to starred question No. 228-A asked by Sri M. Kalyanasundaram at the meeting of the Legislative Assembly held on 13th September 1958, page 770 supra.]

[SUBJECT.—Artificial rain-making experiments.]

Statement of work done by the experiment committee since its inception.

In August 1955, the Government approved a general scheme for conducting artificial rain-making and directed that the scheme may be implemented in one or two centres in this State and sanctioned an expenditure not exceeding Rs. 6,500 towards the cost of the scheme for one year. The Government also constituted a Reviewing Committee consisting of the following officers to review periodically the conduct of the experiments on artificial rain-making :—

Chief Engineer for Irrigation—*Chairman.*

Chief Engineer for Electricity,

Director of Agriculture,

Director of Regional Meteorological Centre,

Sri A. R. Venkatachari, retired Chief Engineer, Public Works Department,

The Agricultural Meteorologist, Coimbatore,

Sri V. K. Sethuraman, Divisional Engineer, Electricity Department (*Secretary*), and

The Executive Engineer, Soil Mechanics and Research, Public Works Department.

Subsequently in view of low water level conditions in the Mettur Reservoir then prevailing and in view of the favourable meteorological conditions, the Government directed that the original scheme sanctioned in August 1955 might be implemented immediately in the area comprising the Nilgiris, the Wynaad, the upper reaches of the Bhavani and the catchment area of the Cauvery in parts of Malabar and Coimbatore districts. The Government also directed that eight generators might be used and the period of the trials limited to 30 days. A sub-commitee was appointed by Government for conducting the experiments.

In accordance with these instructions, experiments were conducted at five centres : Ootacamund, Pykara Dam, Glen-Morgan, Kotagiri and Singara during the month of September 1955. The results of these studies were reviewed by the Reviewing Committee at its meeting on 18th October 1955. The Reviewing Committee recommended the continuance of the experiments during the months of November and December 1955 in Madras in addition

to the Nilgiris. These proposals were approved by Government in December 1955. The experiments were conducted at the following centres :—

(1) Ootacamund;
(2) Coonoor;
(3) Bhavanisagar;
(4) Singara;
(5) Kattabettah;
(6) Pykara Dam; and
(7) Mylapore, Madras.

On further recommendation by the Reviewing Committee, the experiments were continued at Ootacamund, Mukurti and Singara during April-June 1956 and at Ootacamund, Bhavanisagar, Glen-Morgan and Mylapore during August-December 1956.

Technique.—In all cases, a mixture of calcium chloride and sodium chloride was vapourized by an electric arc for about six hours a day using carbon rods as electrodes. The fumes of the vapourized mixture were let out into the atmosphere through a chimney 35 to 40 feet high. The fumes got mixed with the air and subsequently rose up into the atmosphere, the distance travelled and velocity of movement of the fumes depending on the nature of the upward draft of the wind and the wind directions at the time of experiments.

Results of experiments.—The results of the experiments conducted at Madras indicate that there was more favourable rainfall in the down wind direction of 60 per cent of the number of days of experiments when there was rainfall in the area. Taking the amount of rainfall into consideration, it was found that the average rainfall in the down wind direction was of the order of 30 per cent more than the average rainfall in places on the other side of the place of experiment. From the experiments conducted at Ootacamund area, it was observed that out of about 48 days when experiments were conducted, 18 days showed appreciably greater precipitation on the leeward side of the seeding centre. These results were all reviewed by the Reviewing Committee but final conclusions have not yet been drawn. It has been tentatively concluded that there is an appreciable increase of rain in the down wind direction at places of the experiments on the days when rain had occurred over the area.

An *ad hoc* scheme for conducting trials in the Coimbatore area in the current season has been started at Coimbatore on 19th June 1958 and is now in progress.

A review of the entire work done hitherto under artificial rain-making taking into account the work done and the results obtained under the scheme previously sanctioned in August 1955 and a special report indicating the results of the experiments in Coimbatore region recently sanctioned by Government have been called for by Government. This report is awaited from the Reviewing Committee.